

REMARKS

Status

Claims 1-9 were originally filed. By the present amendment, claims 1-9 have been canceled, and new claims 10-17 have been added. Accordingly, it is now claims 10-17 which are at issue.

The Office Action

In the Office Action mailed February 10, 2005, claims 1-3 were rejected, these being all claims then at issue as a result of a restriction requirement previously imposed.

Specifically, claims 1-3 were rejected under 35 U.S.C. §112. Claims 1 and 2 were rejected under 35 U.S.C. §102 as being anticipated by the disclosure of U.S. Patent 6,709,036 of Evans. Claim 3 was rejected under 35 U.S.C. §103 as being unpatentable over the '036 patent of Evans in view of U.S. Patent 6,685,244 of McCoy.

In addition, the specification was objected to for particular noted reasons, and the figures were also objected to.

Applicant thanks the Examiner for the Office Action, the search, and the detailed explanation of the basis of the rejections.

The Restriction Requirement

In the Office Action, the Examiner restates a restriction requirement which was previously made in the course of a telephone conference on February 3, 2005. In the restriction requirement, the Applicant is required to elect between the claims of Group I, namely claims 1-3 drawn to an article, and the claims of Group II, namely claims 4-9 drawn to a method, for prosecution on the merits.

Applicant previously elected claims 1-3 for further prosecution. The election was made without traverse. Applicant hereby restates that election and its traversal. Applicant reserves the right to file one or more divisional applications directed to the non-elected subject matter. Non-elected claims 4-9 are among those claims canceled by the present amendment.

The Present Invention

In order to better explain how newly presented claims 10-17 define over the prior art, Applicant will briefly recapitulate the principles of the present invention. The present invention is directed to a tubular bumper beam which, together with appropriate mounting hardware and covering fascia, forms the bumper assembly of a motor vehicle. The bumper beam of the present invention is a generally elongated, tubular body, such as a body of roll-formed steel. The beam includes a first and a second end section, a center section between the end sections, and first and second mounting sections between respective end sections and the center. The beam is curved along a longitudinal axis extending between the ends. This type of curvature is known in the art as a "sweep," and hence the beam is referred to as a "swept" beam. This curvature allows the beam to conform to the shape of a front end of a motor vehicle and its associated fascia.

In accord with the present invention, the center portion of the beam is displaced forward of the end sections and mounting sections. In this regard, the longitudinal axis of the beam includes two inflection points, each at a location between a respective mounting section and the center section. This displaced center section improves the impact-absorbing qualities of the beam thereby improving crash resistance of the vehicle.

All of the foregoing features of the present invention are recited in the new claims presented herewith.

The New Claims Are Patentable

Applicant presents herewith new claims 10-17 which define subject matter patentable over the prior art of record.

The primary basis of the rejections of previously pending claims 1-3 was U.S. Patent 6,709,036 of Evans. The Evans patent shows a bumper assembly for a motor vehicle which includes an integral trailer hitch. The Evans bumper assembly includes a bumper beam (reference numeral 21 in Figure 2). This beam has a central section 102 which is displaced from end sections 100 by bent portions 103, 104. However, the Evans beam does not include a longitudinal sweep, as is now affirmatively recited in the claims. The beam of Evans is a straight beam, and this fact is made clear by the specification of Evans, for example at column 2, lines 43-50, wherein it is made clear that "The end sections 100 and 101 of the beam 21 are aligned ...". The referred passage goes on to recite that the end sections define a center line (referred to by reference numeral 103, which is duplicative of reference numeral 103 referring to the transition section 103 of the beam). A visual inspection of Figure 2 makes clear that this center line 103 is linear. The passage goes on to further recite that the displaced center section 102 defines another center line 104 (also duplicative of reference numeral 104 indicating the transition section), and that this second center line 104 is displaced from the first center line 103 in a direction toward the body of the motor vehicle.

Reference to the drawings and specification of the '036 patent makes clear that the beam therein, while it does include a displaced center section, shows a beam which is not swept. Furthermore, if the beam of the '036 patent were to have been swept so that the end sections 100, 101 were not aligned, its function would be compromised since it would either no longer provide

for space for the location of the trailer hitch or it would not accommodate the energy absorber outer structure of reference numeral 22.

Claim 1, the sole independent claim, recites a tubular bumper beam which differs from that of the '036 patent. Specifically, claim 10 describes a swept beam wherein the longitudinal axis of the beam is curved along a sweep line. Furthermore, the claim affirmatively recites that the first and second end sections are not linearly aligned. This language is opposite that of the '036 patent which specifies that the ends are in fact linearly aligned along center line 103.

Claim 10 affirmatively recites a swept structure which differs in form and function from the linear beam of the '036 patent. Furthermore, there is no teaching or suggestion in the '036 patent of the desirability or possibility of modifying the beam thereof to include a swept profile; and in fact, such modification would destroy the function of the beam of the '036 patent. Therefore, the language of claim 10 recites a structure which is novel and nonobvious over the teaching of the '036 patent, and claim 10, as well as claims dependent thereupon, is allowable.

The New Claims Find Full Support in the Specification

The new claims find full support in the specification as originally filed. For example, the swept profile of the beam is clearly indicated in Figures 2 and 3 as well as in the specification, for example at page 5, lines 13-23. Likewise, the displaced center section is clearly shown in the drawings, and it is described in the specification at page 4, lines 10-18; page 6, lines 7-10; and others.

The Rejections Under 35 U.S.C. §112

Claims 1-3 were rejected under 35 U.S.C. §112, second paragraph. In view of the cancellation of those claims and the substitution of new claims 10-17, this rejection is moot.

The Objection to the Specification

By the present amendment, Applicant has addressed the Examiner's objections to the specification.

The Objections to the Drawings

Applicant presents herewith new drawings which address various of the points raised by the Examiner in the Office Action. These drawings are still informal, and have been marked in red to show proposed changes. Formal drawings are being prepared incorporating these changes, and will be submitted to the Examiner when available. Applicant notes that in view of the amendments to the specification, particular of the drawing objections have been rendered moot. Specifically, line 21 of page 4 has been amended to change the "S" which refers to the longitudinal direction axis of Figure 1 to "21" which reference numeral is in fact present in the figures. Line 1 of page 5 has also been amended to delete reference to "axis X" from the specification. This axis is not shown in the drawings, and reference thereto is not needed in the specification to clearly define the invention.

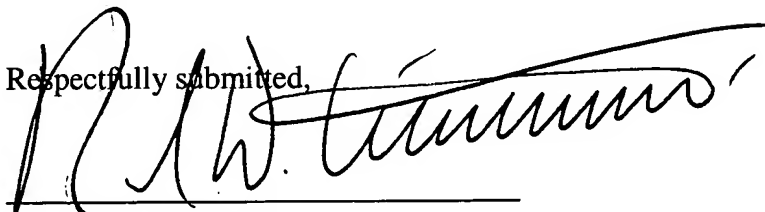
In view of the corrections to the drawings and the foregoing amendments, Applicant respectfully submits that all objections to the drawings are overcome.

Conclusion

By the present response, Applicant has amended the drawings and specification to overcome various formalistic objections raised by the Examiner. Applicant has also canceled all pending claims and presented herewith new claims which clearly recite and define a swept beam structure having a displaced central portion. Applicant has also detailed and explained on the record why and how the prior art beam of the '036 patent is a non-swept beam and hence does not show or make obvious the presently claimed invention.

In view of the foregoing, Applicant respectfully submits that the application is now in condition for allowance. Any questions, comments or suggestions which the Examiner may have that will place the application in still better condition for allowance should be directed to the undersigned attorney.

Respectfully submitted,



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